

Environmental and Engineering Services Department

Water

2011 Operating and Capital Budgets

and

Nine Year Capital Plan



London
CANADA

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Engineering Services and City Engineer

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**Environmental and Engineering Services Department
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RECOMMENDATIONS

That, on the recommendation of the General Manager of Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the proposed 2011 Operating and Capital Budgets for Water Services:

- a) the 2011 Operating Budget **BE APPROVED** as submitted;
- b) the 2011 Capital Budget **BE APPROVED** as submitted; and
- c) the 2012 - 2020 Capital Forecast **BE RECEIVED** for information.

it being noted that the rates and charges related to the provision of Water Services remain at the 2010 rates, in accordance with By-law No. W-7-09003.

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EXECUTIVE SUMMARY

The proposed 2011 Water Operating and Capital Budgets will continue to maintain *London's Advantage* of a safe, clean and secure water supply for this and future generations of Londoners. Rates and charges related to the provision of water services will remain at the 2010 levels as approved by Council on December 20th, 2010. Based on direction received in December, the 2011 Operating and Capital Budget and Nine Year Capital Plan have been revised in keeping with the plan to achieve financial and infrastructure sustainability. Council has further directed that the Water Financial Plan previously approved by Council be adjusted and re-submitted to the Ministry of Municipal Affairs and Housing.

The average cost to the homeowner will not increase this year with annual costs in 2011 anticipated to remain at \$317 or approximately 87 cents a day based on a residential usage at 207 cubic meters per year. This consumption forecast is consistent with usage volumes identified in the 2010 Budget but average costs may be reduced reflecting the recent trend in declining consumption, as customers reduce their water use.

The operating and capital work plans represent a balanced approach to the installation of new infrastructure in conjunction with the Growth Management Implementation Strategy and the investment and renewal required to sustain existing infrastructure. Reliable infrastructure and performance of the water system are key elements to economic development as well as quality-of-life and safety in the community. In 2011, efforts continue to protect water quality and reliability and to expedite water meter replacements to provide consistently accurate meter readings, reducing lost revenue.

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Regulations, increasing standards and legislative obligations continue to require major investments in terms of staff time and financial resources. Staying abreast of regulatory developments and providing early commentary and views, although not always successful, remains a key tactic in helping to shape the broader direction and control long term costs. (Examples: Source Water Protection, corrosion control plans, intra-basin water transfers). Utilities are continually faced with the renewal needs of an aging infrastructure and high rates of inflation, particularly for construction. Re-thinking past practices and investing in new approaches, while ensuring the reliability of the service, have become fundamental to the daily delivery of clean water.

Budget Drivers

The proposed 2011 Water Operating Budget presents a balanced cost/revenue plan in the amount of \$56.7 million. This represents a zero percent rate increase over the 2010 budget. A revenue reduction from 2010 is anticipated due to conservation efforts and reduction in usage anticipated by industrial and residential users. The Water Service Operations costs have been identified at a 1.7% increase which includes accommodation of the increases in the outside cost of purchasing water from the Elgin Area and Lake Huron Primary Water Supply Systems which is increasing by 7% and 5% respectively, and anticipated cost increases for services provided by London Hydro. This increase also includes a portion of the anticipated annual costs associated with the new South East Reservoir and Pumping Station.

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Table 1

Explanation of Changes in Expenditures	Full Year Impact	Impact on Rate
Increase in cost of water purchased from the Regional Water Boards due to 7% and 5% increase in rates from the Elgin Area and Lake Huron Primary Water Supply Systems respectively net of reduced consumption.	703	1.2%
Wage, salary and benefit adjustments of prior approved positions due to existing and anticipated employment agreements and inflationary increases in some overhead expenses (the OMERS increase is also accommodated in this budget category).	269	0.5%
A new Technologist position is required to support and enhance the Water Demand Management Program.	77	0.1%
Anticipated cost increase in services provided by London Hydro.	158	0.3%
Partial transfer of Billing and Administration costs to Wastewater and Treatment to move gradually to full sharing of these costs.	(250)	-0.4%
Operating Related	\$957	1.7%
Decreased contributions to Reserve Funds to reflect changes to the 20 Year Plan.	(3,172)	(5.5)%
Increased Capital Levy to continue the practice of pay-as-you-go financing for life cycle renewal projects.	1,325	2.3%
Capital Related	\$(1,847)	(3.2)%
Total Expenditures Decrease of 1.5% - Rate Increase of 0%	\$(890)	(1.5)%

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Economic Conditions and Senior Government Stimulus Funding

This budget proposes reconfiguring the allocation of capital works associated with the long term infrastructure renewal and replacement plans to achieve sustainability by 2017. Watermains and other water assets continue to age and degrade, irrespective of the amount of water used and other external factors. Although some economic stability has been achieved and certain markets are improving, uncertainty remains and regional employment is below desirable levels. Reduced capital spending in this climate exacerbates the impacts on local employment levels.

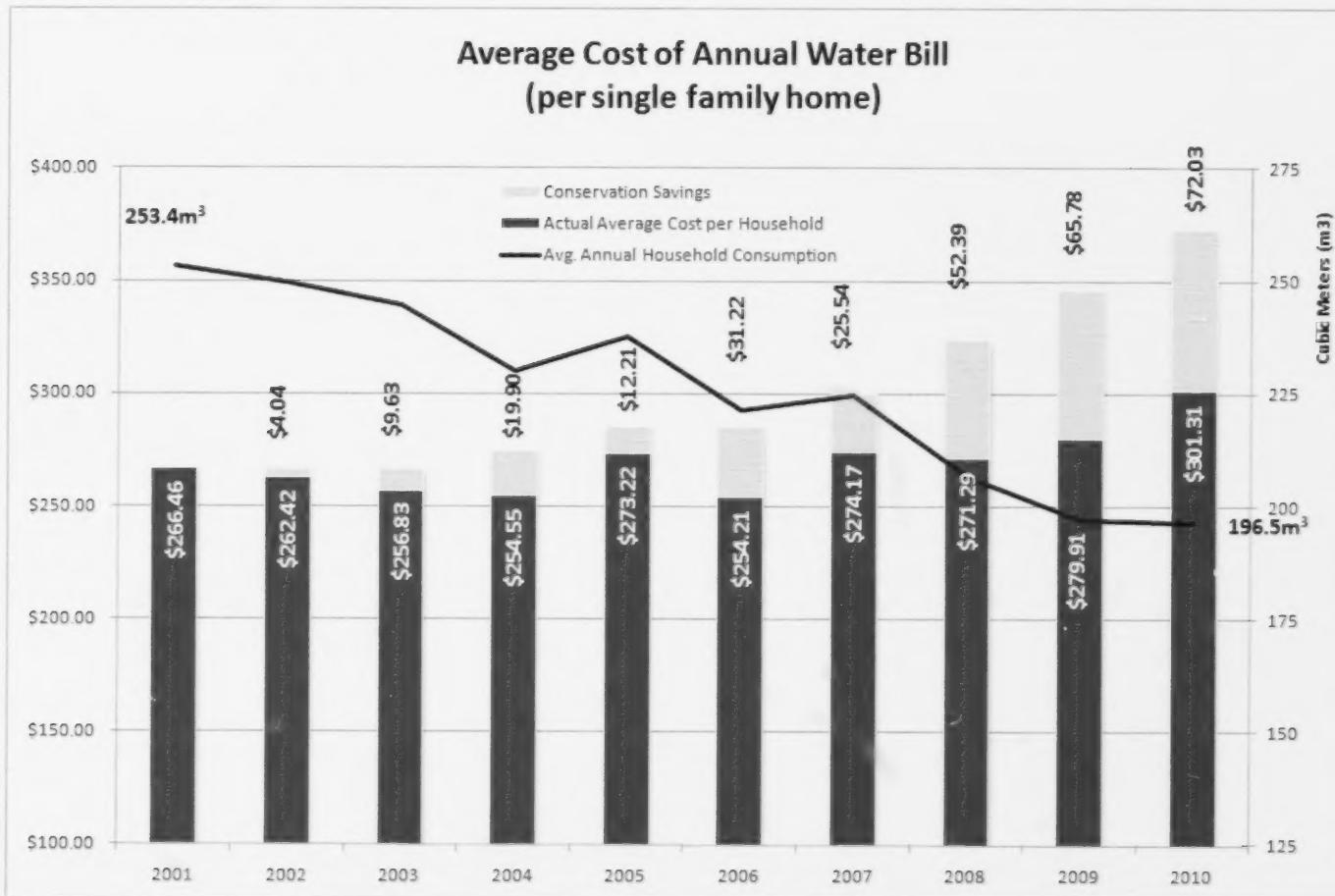
Senior Government stimulus funding was committed in 2010, with no significant allocation to the Water Service Area. Two projects (EW3544 Dundas Street Watermain Replacement and EW3545 Watermain Replacements) were brought forward into 2010 in order to align with Transportation and Sewer works which were accelerated by the allocation of stimulus funding. These projects were not contemplated within the 20 year time frame of the Water Financial Plan. This acceleration without the benefit of senior government funding has put additional pressure on the Water Reserve Fund. The impact of these two projects advanced the need for approximately \$2.5 million in borrowing. Advancing these projects was of significant benefit in leveraging rate supported funds for General Tax and Wastewater and Treatment. Future borrowing for capital works may be required in the future to stabilize the Water Reserve Funds, contrary to the principle of "pay-as-you-go".

Water Consumption and Conservation

Average household water usage in London has declined 22% from 2001 to 2010 (Exhibit 1).

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Exhibit 1



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There are a number of influencing factors responsible for this conservation trend and although the impact to utility revenues is negative the overall impacts of water consumption decreases should be seen as a very positive trend toward *Conserving the Future*, and should be encouraged. The reduction in demand is evident at the Joint Board level as well, where significant capital expansion and associated costs such as the Elgin Treatment Plant expansion are being deferred from the original construction schedule. Deferral of water treatment plant expansions by 6 or 7 years which are valued in the range of \$50 to \$100 million saves millions of dollars per year, in interest on debt. This deferral of debt also makes more debt capacity available to other City service areas.

It is anticipated that the final billed volume for 2010 will fall short of budget once again due to continued reduction in consumption by industrial, commercial and institutional customers impacted by the lingering recession. The 2010 budget was based on volume of 46.3 million cubic metres (Mm³) which is being further reduced to 45.5 Mm³ for the proposed 2011 budget.

Core Service Delivery – Infrastructure Renewal, Economic Development and Growth, and Resource Protection

The Water Service Area remains proactive in initiatives to ensure that this service continues to meet all of the demands and expectations of customers. Current infrastructure requires significant renewal (replacement and rehabilitation) work to close the infrastructure gap ensuring that future generations are not faced with a water system that is failing and expensive to maintain. There is also an environmental duty, and soon will be a regulatory requirement, to ensure that water consumption is not wasteful. Further initiatives related to water awareness and the efficient use of water have been budgeted and programs are currently being designed. One additional Technologist is budgeted for 2011 to assist in the delivery of the Water Efficiency Program mandated by the province.

The water utility has maintained a relatively good financial picture and continues to place London in the position of *Setting the Standard* for a utility which has an adequate and secure supply of high quality water. In the next few years, the water reserve funds are projected to be drawn down to a lower than normally acceptable level.

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Table 2

2011 Water Capital Plan Summary		
Category of Project	Total (\$000's)	Percentage
Life Cycle Renewal	16,229	69%
Growth	4,411	19%
System Improvement	2,710	12%
Total	23,350	100%

Water Distribution System Renewal

Two capital programs are at the centre of renewal and focus to manage the infrastructure gap to a sustainable level.

1. The Watermain Cleaning & Relining Program targets areas of the City where water quality (taste, colour, chlorine residual) has deteriorated due to prolonged water detention time and internal corrosion of the watermain (identification is driven in part, by water quality complaints). Cleaning and relining restores water quality and improves fire flow, while extending the life of a watermain that would otherwise have to be replaced at a much higher cost and also reduces social impacts and disruption by utilizing trenchless technologies.
2. The Watermain Replacement Program ensures that the distribution system remains reliable and cost effective. This program is coordinated with sewers and roads and has been re-aligned to meet Council's direction on sustainability.

Some anticipated benefits of continuing these programs are a reduction in water quality complaints, extended service life of watermain (before replacement is required), reduction in the number of watermain breaks, reduction in water losses and reduction in water used for flushing, reduction in average age of system and a reduction in risk of private property damage.

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Meter Replacement Strategy

Water Operations has developed a water meter replacement and meter reading strategy, and have begun to implement it concurrently with London Hydro's compliance with government legislation requiring implementation of "Smart Metering" for electric customers. The smart metering initiative at London Hydro has been complemented with a new customer service software system (SAP) to manage the new meter read data. The new system has meter management capabilities and will be interlinked with meter replacement and the City's meter work order system. The Water Meter Shop will utilize the new software to improve water meter change-out scheduling and customer interactions. Additionally, this will support the interactive telephone voice recording system and a web-based appointment scheduling system, receive incoming telephone inquiries, and generate customer correspondence relative to meter replacements.

The existing meters are beyond their optimum replacement age and are in a deteriorating condition, thereby being a source of unaccounted water and revenue loss for both Water and Sewer revenue streams. Their replacement will be fully compatible with the automated meter reading system. Reducing the backlog of old meters scheduled for replacement is currently underway through an aggressive, long-term meter change-out program. Temporary and full time staff have been deployed annually to reduce the backlog of meters to a sustainable level and minimize revenue losses associated with under-reading water meters.

Residential and Industrial Growth Projects

There are two major growth related projects budgeted for in 2011. Extension of the Wickerson pressure zone to serve new development in Warbler Woods in west London and a new watermain north of Dingman Drive and east of White Oak Road to support industrial growth in south London.

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Risk Reduction Initiatives related to Health and Safety, Financial, Security of Supply, Environmental, Private Property

Municipal Councillors and officials have oversight responsibilities under Section 19 of the Safe Drinking Water Act, which becomes a statutory requirement on January 1, 2013. Severe penalties are possible for municipal officials who fail to act in good faith and do not exercise honesty, competence and integrity to ensure the protection and safety of the users of municipal drinking water systems. A statutory standard of care is required on the part of our elected officials to prevent waterborne disease outbreaks.

Considerable effort has been undertaken in the Water Service Area to assess risk and put in place management strategies to reduce risk and minimize the impact on our customers. Several initiatives are identified for 2011, while others are a continuation and/or expansion of work already underway. Some of the initiatives undertaken by the City reduce risk in multiple areas (e.g. structural lining of cast iron watermains improves water quality, enhances security of supply, reduces lost water or flushed water and avoids damage to private property).

Drinking Water Quality Management System (DWQMS)

The quality management system mandated by the province will assist the utility in ensuring a consistent delivery of high drinking water quality by all staff. Documentation of the numerous practices in water supply operations and maintenance and adherence to them will minimize the health risk to all our customers.

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Lead Mitigation Strategy

Although the City has had a lead replacement program since the early 1980's additional resources were approved by Council in 2008 to accelerate the replacement of lead services either through customer or City initiated replacements. Lead service replacements have increased from approximated 250 per year prior to 2007 to over 600 per year, with a targeted average of 500 for the 18 year program. The City has recently submitted the Corrosion Control Plan mandated by the province which includes pH adjustment of the water entering the City of London and isolation of some parts of the distribution system. Further work continues at the Elgin Area Water Treatment Plant to design and install corrosion control equipment next year. A significant amount of practical research is also being conducted in partnership with the University of Western of Ontario and Ecole Polytechnique in Montreal to further reduce lead contribution from lead services.

Occupational Health and Safety Plans

Considerable effort has been undertaken to protect city workers as they undertake day-to-day maintenance and operational duties. Recent amendments to the act have resulted in changes to City policy and procedures in relation to violence in the workplace or domestic violence outside of the workplace. Water Operations mobile workforce has a greater exposure to customers in their homes than most City workers and as a consequence measures will be undertaken in 2011 to limit liability concerns.

Condition Assessment and Long Term Monitoring of Large Diameter Watermains

Due diligence requires that the Water Service Area use best practices to determine the condition of the City's largest watermains using non-destructive testing technology including acoustic fiber optic cables mounted inside the pipes, electromagnetic inspections using robotic sensors and leakage surveys using "smart ball" listening technology. Rigorous assessment of these mains will allow timely remediation of the main, extend their life and avoid catastrophic failure. Average cost of the failure of large diameter mains as reported by the Water Research Foundation is identified to cost the community in excess of \$1.5M per break.

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Leak Detection within the Distribution System Utilizing Acoustic Listening Devices

Establishment of a leak detection monitoring system is beneficial in identification and repair of watermain leaks, quickly eliminating water loss before the watermain breaks, also eliminating the potential to cause greater and sometimes significant damage, especially in the downtown core. Benefits will include increased detection and reduction of non-revenue water and increased reliability of infrastructure.

Leak Detection within the Distribution System Utilizing Analysis of Real Time Water Consumption

A pilot project has been initiated as part of the Water Efficiency Program to identify currently undetected water leakage in the distribution system by reviewing flow data in specific areas of the City. If successful, additional District Metering Areas will be established as part of the on-going program.

Reduction of Non-Revenue Water

A significant component of managing our financial risk is by reducing the amount of water which is delivered to the City, but not charged for. This is termed "non-revenue" water. While London has an enviable ratio of billed water to purchased water (90%), there are several opportunities to improve the efficiency of the system in terms of leak reduction, billing meter accuracy, reducing breaks and early response to breaks, improved water quality to minimize flushing requirements and bulk water sale stations.

Hydraulic and Water Quality Modelling

Assessing the impact of operational changes on water quality and water pressure in the distribution system for safety of supply, fire protection and impacts on customers. Energy efficiency modeling to reduce operational costs. Transient pressure modeling to extend service life of pipes in the distribution system and reduce breaks.

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Operational Efficiency Initiatives

The Water Service Area continues to seek out and implement new technologies bringing innovative approaches to infrastructure renewal. Below are some of the new and continuing initiatives that have been included within the proposed budget.

Trenchless Technologies - Reducing Trenching and Restoration

Trenchless technologies have been used by the Water Department since the mid 1990's, all the while reviewing, assessing, and implementing emerging innovative technologies and materials. Compared to open cut and surface restoration construction, trenchless methods minimize the amount of excavation required to install watermain, minimize damage to surface structures, cause less disruption of traffic and reduce noise and dust for homeowners. This technology also allows installations to be made in areas where open excavation is impractical, impossible, extremely difficult, or costly. Trenchless procedures are also more environmentally friendly because they produce less construction emissions.

Success in trenchless watermain rehabilitation projects warrants increased use of this technology. Water Operations has completed many watermain replacement projects and lead service replacements in 2010 using recently acquired directional drill equipment. Successes have been realized by continued use of its hydro-excavation equipment, which significantly decreases the amount of excavation and restoration required to undertake maintenance and repairs to watermains and water services. Additionally, reduced impact to the travelling public and cost-saving are predicted in 2011 via introduction of hot-mix asphalt recycling equipment for immediate surface repairs of watermain breaks in cold weather conditions, when hot-mix asphalt plants are shut-down over the winter.

Practical research is underway to assess innovative technologies in the area of structural lining of cast iron watermains. With increasing contractor competition in this area, the cost to rehabilitate watermains is expected to decrease somewhat allowing more watermains to be renewed, further narrowing the infrastructure gap.

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Elgin Middlesex Pumping Station and the Southeast Reservoir and Pumping Station (SERPS) Operations

Last year's budget identified that a new operator would be required in 2010, in order to become familiar with the controls and operation of the Southeast Reservoir and Pumping Station facility, as well as to take over the contracted operation of London's pumps within the Elgin-Middlesex Pumping Station. Previously approved Water Capital budget had also included a project for replacement of London's pumps and ancillary equipment in the Elgin-Middlesex Pumping Station, again its timing dependent upon Southeast coming on-line. The new operator's position has been held in abeyance, with timing commensurate with the actual commissioning of Southeast, scheduled for mid-2011. Costs currently paid to an outside contractor for the operation of Elgin-Middlesex Pumping Station will offset personnel costs for the operator for both sites, including significant cost saving expectations through energy efficiency gains by the pump replacement initiative coupled with Southeast Pumping Station becoming operational.

Legislation which Is or May Impact Future Cost of Operations

The "Licensing of Municipal Drinking Water Systems" (O. Reg. 188/07) under the *Safe Drinking Water Act, 2002* requires 5 elements to be completed:

1. A Drinking Water Works Permit (DWWP) – submitted December 2008
2. An Accepted Operational Plan – submitted December 2008, approved July 2010
3. Accreditation of the Operating Authority – pending
4. A Financial Plan – approved May 17, 2010 by Council and submitted to MA&H (will require re-submission in 2011)
5. A Permit to Take Water (PTTW) – currently in-place for Regional Systems and Standby Well Systems.

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The requirement for a Drinking Water Quality Management System (DWQMS) and related implementation requirements are underway. The City of London's Operational Plan has been submitted and approved. The Drinking Water Works Permit application has been submitted and the license has recently been received. Internal audit has been completed and the external audit will be completed in the spring of 2011 at which time the water utility will be fully licensed.

The Ontario government passed the Clean Water Act in October 2006 to protect the province's source waters which are used for municipal drinking water. In support of measures required by the legislation, the Ministry of the Environment (MOE) has established a grant program to fund work leading towards the development of Source Protection Plans by October 2012. While the City has benefited from the grant program, (report to ETC September 8, 2008), it is unclear at this time what the cost implications will be to Water and Wastewater Utilities when the plans are implemented. City staff have ongoing involvement in the development of the plans.

The City of London has responded to the Environmental Bill of Rights Registry posting dealing with the proposal paper on Stewardship, Leadership, Accountability – Safeguarding and Sustaining Ontario's Water Resources for Future Generations. The main concern for London revolves around the point of whether London is undertaking a transfer of water across a Great Lake basin boundary. Staff at the City of London and Regional Water Supply Systems are fully engaged with the appropriate Ministries to ensure the best interests of the City of London and other regionally supported municipalities are considered. There is not adequate information derived subsequent to the posting of the proposal paper to allow Administration to accurately assess what parts of the new regulations may apply to London, what the timing of the impact will be, nor the magnitude of the impact.

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The proposed Water Opportunities and Water Conservation Act introduces mandatory legislation, previously anticipated by City staff. It is further anticipated that our Water Efficiency Program and Municipal Drinking Water Awareness Plan will meet the requirements of the legislation and the subsequent enabling regulations. Any further impacts on staff resources and financial commitments will not be clear until the regulations of the Water Opportunities Act are put forward, but it is clear that more effort will be required than was previously budgeted. For the 2011 Budget, a new staff technologist position was included to support delivery of the Water Efficiency Program which has been phased in over the last 2 years.

2011 Rate Increase

The direction of Council in December of 2010, identified that a zero percent rate increase was to be implemented for the 2011 Budget. The financial impact to the Water Service long term financial plan has been identified and incorporated within the proposed 2011 Budget documents.

The long-term rate forecast is detailed in Table 3. Council further directed on December 20th, 2010 that the 2011 Operating and Capital Plan and Nine Year Capital Plan be prepared on the basis of 8% rate increases in 2012 through 2015 with a 4.5% increase in 2016 and return to the rate of inflation thereafter. This would enable the water system to reach financial sustainability by 2017 which is consistent with the principles of the 20 Year Water Financial Model (revised January 2011). The projected rate increases are offset by an anticipated net consumption reduction of 0.25% (assuming a 1% growth factor and an average consumption reduction of 1.25%). The future projected rate increases will be used by in large to address the infrastructure deficit.

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Table 3

Long-Term Rate Forecast from 20 Year Water System Plan			
Year	Program Requirements	Net Consumption/Growth Demand	Rate Increase Required
2012 - 2015	7.75%	-0.25%	8%
2016	4.25%	-0.25%	4.5%

Conclusion

The proposed 2011 Water Operating Budget presents a balanced investment/revenue plan in the amount of \$56.7 million. This represents a 1.5% revenue decrease over the 2010 budget. Operating costs exclusive of water purchase from Regional Water Boards and the anticipated cost increase for services provided by London Hydro represents a 0.1% increase. Water consumption continues to decline and is forecasted to be lower in 2011, impacting short term revenues and in the longer term further delaying the need for significant capital expansions of treatment plants, pipelines and reservoirs.

At a daily cost of 87 cents, (based on 2010 consumption estimates) the average London household has access to a reliable, high quality abundance of water to satisfy all their water needs (drinking, food preparation, sanitation, showers, laundry, dishwashing, outdoor water use etc.). Public health, fire protection, economic development and convenience further enhance *London's Advantage* through the provision of this essential service.

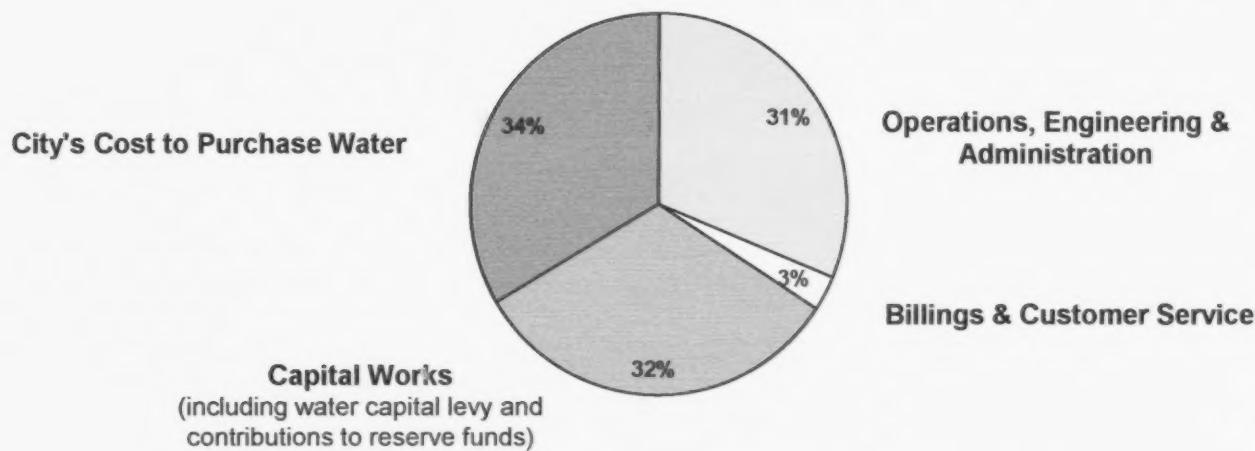
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The legislated Water Service area Financial Plan was submitted to the Ministry of Municipal Affairs and Housing in June 2010, the revised Financial Plan will be re-submitted in early 2011. The financial plan for the City's water supply system confirms our commitment to full cost recovery, financial stability, closing the water infrastructure gap, while achieving sustainability of the system in the years to come. The financial plan identifies the funding requirements to ensure a safe and sufficient water supply, while meeting all regulatory compliance requirements. It is a commitment to continue renewing infrastructure as it approaches the end of its useful life, prior to failure, thereby minimizing maintenance and repair costs, social disruption and water loss and ensuring inter-generational equity. A revised financial plan will be prepared to reflect the 2011 budget and rate commitments to achieve sustainability.

A fully developed and implemented financial plan will maintain ***London's Advantage*** over other municipalities providing a high quality, abundant water supply at affordable rates and ***securing tomorrow***, allowing future generations to prosper as we have.

Environmental and Engineering Services Department Your Water Dollar

Where Your Water Dollar Goes



Impact on Average Residential Property

Annual Residential Cost at 2010 Rates (1)	\$317
Annual Residential Cost at 2011 Rates (1)	\$317

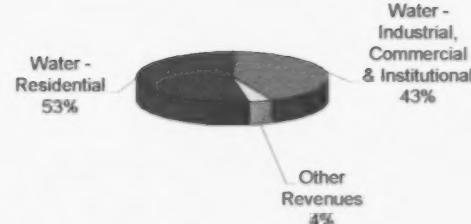
(1) Based on annual residential usage of 207 m³

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2011 Budget Highlights
(\$000's)

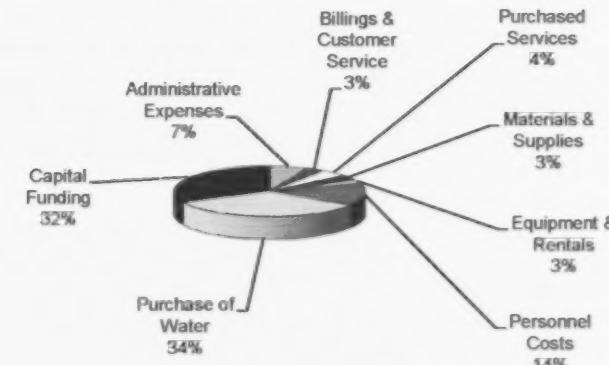
	(\$000's)	%
2011 Proposed Budget	\$56,747	
2010 Approved Budget	\$57,637	
Decrease From 2010 Budget	(\$890)	(1.5)%
Total Rate Increase		0.0%

Note: Although 2011 water rates will remain unchanged from 2010, the anticipated reduction in water consumption is driving down revenues from residential, commercial, institutional, industrial and multi-family residential water users.

Revenue Budget
\$56,747



Expenditure Budget
\$56,747



Environmental and Engineering Services Department
Water
2011 Operating Program Budget Summary
(\$000's)

Program	2009 Actuals	2010 Approved Budget	2011 Proposed Budget	Change from 2010	Impact on Rate
Revenue					
Residential	26,884	30,623	30,115	(508)	-0.9%
Commercial, Institutional, Industrial & Multi Family Residential	22,180	24,828	24,412	(416)	-0.7%
Other Revenues	2,157	2,186	2,220	34	0.1%
Total Revenues	51,221	57,637	56,747	(890)	(1.5)%
Engineering & Operations					
Engineering	1,203	1,341	1,461	120	0.2%
Purchase of Water	16,867	18,316	19,019	703	1.2%
Water Operations Administration	1,066	1,031	1,190	159	0.3%
Water Meters	1,310	1,266	1,335	69	0.1%
Pumping & Storage	2,291	2,797	2,702	(95)	-0.2%
Maintenance & Construction	6,843	7,521	7,605	84	0.2%
General Administration & Financial Expenses	3,713	3,657	3,439	(218)	-0.4%
Billings & Customer Service	1,669	1,540	1,675	135	0.3%
Total Engineering & Operations	34,962	37,469	38,426	957	1.7 %
Capital Contributions					
Capital Funding					
Current Year Life Cycle Capital Funding	8,867	10,075	11,400	1,325	2.3%
Reserve Fund Contribution (1)	7,371	10,072	6,900	(3,172)	-5.5%
Debt Servicing Costs	21	21	21	0	0.0%
Total Capital Contribution	16,259	20,168	18,321	(1,847)	(3.2)%
Total Expenditures	51,221	57,637	56,747	(890)	(1.5)%

(1) Includes contributions to corporate reserves for Local Improvements and Self Insurance.

Environmental and Engineering Services Department
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2011 Object of Expenditure and Source of Revenue Summary
(\$000's)

Program	2009 Actuals	2010 Approved Budget	2011 Proposed Budget	Change from 2010	Impact on Rate
Revenues					
Residential	26,884	30,623	30,115	(508)	-0.9%
Commercial, Institutional, Industrial & Multi Family Residential	22,180	24,828	24,412	(416)	-0.7%
Other Revenues	2,157	2,186	2,220	34	0.1%
Total Revenues	51,221	57,637	56,747	(890)	(1.5%)
Operating Related					
Purchase of Water	16,867	18,316	19,019	703	1.2%
Personnel Costs	6,983	7,615	8,004	389	0.7%
Administrative, Other & Recovered Expenses	3,525	3,961	3,602	(359)	-0.6%
Billing & Customer Service	1,669	1,540	1,675	135	0.2%
Purchased Services	2,570	2,642	2,582	(60)	-0.1%
Materials & Supplies	1,718	1,702	1,913	211	0.4%
Equipment & Rentals	1,466	1,549	1,487	(62)	-0.1%
Total Operating Related	34,798	37,325	38,282	957	1.7%
Financial Expenses					
Current Year Life Cycle Capital Funding	8,867	10,075	11,400	1,325	2.3%
Reserve Fund Contribution (1)	7,371	10,072	6,900	(3,172)	-5.5%
Other Financial Expenses (Including Debt Servicing)	185	165	165	0	0.0%
Total Financial Expenses	16,423	20,312	18,465	(1,847)	(3.2%)
Total Expenditures	51,221	57,637	56,747	(890)	(1.5%)

(1) Includes contributions to corporate reserves for Local Improvements and Self Insurance.

**Environmental and Engineering Services Department
Water
Overview of Changes - Revenue
(\$000's)**

Explanation of Changes in Revenue	Full Year Impact
Total revenues are anticipated to decrease by 1.5% from the 2010 budget. Although 2011 water rates will remain unchanged from 2010, the anticipated reduction in water consumption is driving down revenues from residential, commercial, institutional, industrial and multi-family residential water users.	(924)
Meter rates in 2011 will remain unchanged from 2010, however this revenue category will increase due to growth in the number of household accounts.	34
Total Revenues Decrease of 1.5 % - Rate Increase of 0%	(890)

Environmental and Engineering Services Department
Water
Overview of Changes - Expenditures
(\$000's)

Explanation of Changes in Expenditures	Full Year Impact
Increase in cost of water purchased from the Regional Water Boards due to 7% and 5% increase in rates from the Elgin Area and Lake Huron Primary Water Supply Systems respectively net of reduced consumption.	703
Wage, salary and benefit adjustments of prior approved positions due to existing and anticipated employment agreements and inflationary increases in some overhead expenses.	269
A new Technologist position is required to support and enhance the Water Demand Management Program.	77
Anticipated cost increase in services provided by London Hydro.	158
Partial transfer of Billing and Administration costs to Wastewater and Treatment to move gradually to full sharing of these costs.	(250)
Operating Related	957
Decreased contributions to Reserve Funds to reflect changes to the 20 Year Plan.	(3,172)
Increased Capital Levy to continue the practice of pay-as-you-go financing for life cycle renewal projects.	1,325
Capital Related	(1,847)
Total Expenditures Decrease of 1.5% - Rate Increase of 0%	(890)

Environmental and Engineering Services Department
Water
Four Year Operating Forecast

Revenue

The projected rate increases of 8% from 2012 - 2015 have been incorporated into the Water Financial Model based on direction from Committee of the Whole on December 20, 2010. The Water Financial Plan (legislated by Ministry of the Environment and Ministry of Municipal Affairs and Housing) will be amended and submitted in the Spring of 2011.

A significant factor that is influencing these projections is the continued downward trend in water consumption. From 2012 to 2015 the projected rate increases consider an anticipated consumption reduction of 1.25% which is partially offset by an anticipated growth rate of 1%. These assumptions have been factored into the 20 year financial model. However, deviations from these projections or changes to the economic climate or legislative requirements may result in modifications to the 20 year plan to ensure sustainability is achieved in an acceptable timeframe.

Engineering & Operations

The forecast from 2012 to 2015 for all operating budget categories, with the exception of the Purchase of Water, are projected to increase by an anticipated rate of inflation of 3%. Budget drivers impacting the Purchase of Water are net water demand and rate increases imposed by the Regional Water Supply. Net demand for water is projected to decrease by 0.25% annually. It should be noted that the annual transfer in the amount of \$250,000 to balance administrative costs from Water to Wastewater and Treatment will be completed in 2013.

Capital Financing

The forecast from 2012 to 2015 projects a continued increase in the capital levy to fund life cycle renewal projects consistent with the Corporate Strategic Financial Plan approved by Council. Contributions to reserve funds are also projected to increase annually during this period.

Environmental and Engineering Services Department
Water
Four Year Operating Forecast
(\$000's)

Program	2011 Proposed Budget	2012 Budget Forecast	Incr. / (Decr.) Over 2011		2013 Budget Forecast	Incr. / (Decr.) Over 2012		2014 Budget Forecast	Incr. / (Decr.) Over 2013		2015 Budget Forecast	Incr. / (Decr.) Over 2014	
			\$	%		\$	%		\$	%		\$	%
Water Rate Forecast	0.0%	8.0%			8.0%			8.0%			8.0%		
Revenues													
Residential	30,115	32,449	2,334	7.8%	34,964	2,515	7.8%	37,674	2,710	7.8%	40,593	2,919	7.7%
Commercial, Inst., Ind. & Multi Family Residential	24,412	26,304	1,892	7.8%	28,343	2,039	7.8%	30,540	2,197	7.8%	32,906	2,366	7.7%
Other Revenues	2,220	2,287	67	3.0%	2,355	68	3.0%	2,426	71	3.0%	2,499	73	3.0%
Total Revenues	56,747	61,040	4,293	7.6%	65,662	4,622	7.6%	70,640	4,978	7.6%	75,998	5,358	7.6%
Administration & Capital Financing													
General Administration & Financial Expenses	3,439	3,292	(147)	-4.3%	3,141	(151)	-4.6%	3,235	94	3.0%	3,332	97	3.0%
Billings & Customer Service	1,675	1,725	50	3.0%	1,777	52	3.0%	1,830	53	3.0%	1,885	55	3.0%
Debt Servicing Costs	21	59	38	181.0%	542	483	818.6%	531	(11)	-2.0%	531	0	0.0%
Capital Funding	18,300	21,281	2,981	16.3%	24,130	2,849	13.4%	27,524	3,394	14.1%	31,221	3,697	13.4%
Total Administration & Capital Financing	23,435	26,357	2,922	12.5%	29,590	3,233	12.3%	33,120	3,530	11.9%	36,969	3,849	11.6%
Engineering													
Engineering	1,461	1,505	44	3.0%	1,550	45	3.0%	1,597	47	3.0%	1,645	48	3.0%
Purchase of Water	19,019	19,961	942	5.0%	20,909	948	4.7%	21,902	993	4.7%	22,942	1,040	4.7%
Total Engineering	20,480	21,466	986	4.8%	22,459	993	4.6%	23,499	1,040	4.6%	24,587	1,088	4.6%
Operations													
Water Meters	1,335	1,375	40	3.0%	1,416	41	3.0%	1,458	42	3.0%	1,502	44	3.0%
Pumping & Storage	2,702	2,783	81	3.0%	2,866	83	3.0%	2,952	86	3.0%	3,041	89	3.0%
Maintenance & Construction	7,605	7,833	228	3.0%	8,068	235	3.0%	8,310	242	3.0%	8,559	249	3.0%
Water Operations Administration	1,190	1,226	36	3.0%	1,263	37	3.0%	1,301	38	3.0%	1,340	39	3.0%
Total Operations	12,832	13,217	385	3.0%	13,613	396	3.0%	14,021	408	3.0%	14,442	421	3.0%
Total Expenditures	56,747	61,040	4,293	7.6%	65,662	4,622	7.6%	70,640	4,978	7.6%	75,998	5,358	7.6%

Environmental and Engineering Services Department
Water
Engineering & Operations
Performance Measures and Staffing 2005-2015

Performance Measures	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Actual	Actual	Actual	Actual	Actual	Expected	Forecast				
Output and Service Level											
Water sold in million cubic meters ⁽¹⁾	51.8	49.5	49.9	46.7	46.4	45.2	45.5	45.2	45.1	45.0	44.9
Lead services replaced	300	333	476	651	628	590	575	560	545	530	515
Water meters installed	5,710	5,794	5,531	5,200	11,400	10,900	10,000	10,000	10,000	10,000	10,000
km of new watermain (km)	24.5	32.5	15.4	11.0	8.7	9.5	11.0	11.7	12.0	12.0	12.0
km of watermain replaced (km) ⁽²⁾	12.9	9.3	11.3	8.8	10.4	15.9	7.0	7.0	8.0	8.0	8.0
Total km of watermain rehabilitated	16.0	11.7	14.9	11.0	9.7	4.2	5.0	5.0	5.0	5.0	6.0
Total km of watermain	1,482	1,494	1,518	1,539	1,544	1,554	1,563	1,575	1,587	1,599	1,611
% of existing mains renewed	1.95%	1.41%	1.73%	1.28%	1.30%	1.29%	0.75%	0.75%	0.79%	0.84%	0.85%
Efficiency Measures											
Average cost for residential customer ⁽⁴⁾	\$273	\$254	\$274	\$271	\$280	\$317	\$317	\$324	\$345	\$368	\$393
Residential consumption (1000's litres per year)	237.6	221.3	224.6	206.6	197.1	207.0	207.0	195.4	193.0	190.6	188.2
Non revenue water (% of pumped) ⁽⁵⁾	8.1	7.4	7.7	7.4	8.9	10.2	8.4	8.4	8.3	8.3	8.2
Effectiveness Measures											
# of boil water advisories	0	0	0	0	0	0	0	0	0	0	0
# of watermain breaks per 100 km ⁽⁶⁾	11.5	8.9	12.4	7.9	7.3	8.2	8.0	8.0	7.0	7.0	7.0
Ministry of Environment Report Card score ⁽⁶⁾	N/A	N/A	95.38%	98.19%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Community Impact / Quality											
Emergency service interruption > 2 hours ⁽⁷⁾	1.300	1.315	1.300	1.320	1.325	1.325	1.320	1.315	1.315	1.310	1.310
Water quality complaints ⁽⁸⁾	931	942	887	468	261	280	290	300	305	310	310
Water rate increases (%) ⁽¹⁾	3.0	4.0	5.0	5.0	8.0	8.0	0.0	8.0	8.0	8.0	8.0
Staffing											
Full-time equivalents #	94.5	90.6	92.2	89.1	92.3	91.8	95.3	95.3	95.3	95.3	95.3
Increase / (Decrease) over previous year	0.0	(4.0)	1.6	(3.1)	3.2	(0.5)	3.6	0.0	0.0	0.0	0.0
Full-time employees #	80	78	78	77	78	79	80	80	80	81	81
Increase / (Decrease) over previous year	0	(2)	0	(1)	1	1	1	0	0	1	0

Notes:

(1) Based on 20 Year Financial Plan, revised based on Council direction December 2010.

(2) 2010 - Stimulus Projects Included

(3) Dependent on non-revenue usage (fire, flushing, meter inaccuracy), main breaks, and leakage

(4) The average cost per household per year in 2010 and 2011 is based on actual 2008 residential consumption of 207 m³.

(5) Dependent on renewal programs and weather (temperature)

(6) MOE Report Card started in 2006

(7) Influenced by weather conditions

(8) Drop in complaints coincides with pH adjustment

Environmental and Engineering Services Department

Water

2011 Capital Budget

With Forecasts

Environmental and Engineering Services Department
Water
Capital Program
(\$000's)

Program Name: Water	2011 Proposed Budget -	\$23,350
Committee: Built and Natural Environment Committee	2012 - 2015 Forecast -	\$119,658

Objective: The Water Capital program includes transmission and distribution piping, pumping stations, and reservoir storage to meet the growth demands of the city as well as repair and rehabilitation to extend the life cycle of existing infrastructure. The elements in this program are generally outlined in such engineering studies and documents as the Water Master Plan or the Water Distribution System Needs Analysis, or resulting from ongoing modeling and analysis of the existing system.

Page Number	Project Number	Project	Life Cycle Renewal	Growth	System Improvement
39	EW1503	Development Charges Background Study		60	
32	EW1612-11	Meters & Devices	400		
45	EW1627-11	Meter Replacement Program			1,300
45	EW2403	New Vehicles & Equipment			173
32	EW3409-11	Pumping Stations Major Repairs	150		
32	EW3526	Arva Pumping Station Upgrades	50		
33	EW3528	Quality Management System Audits	10		
45	EW3533-11	Lead Mitigation Strategy			106
33	EW3540	Elgin Middlesex Pumping Station - Capital Maintenance	50		
34	EW3563-11	Main Cleaning & Relining	3,025		
34	EW3580	Huron Street River Crossing Remedial Work	300		
41	EW3628	Expansion of Southeast Pressure Zone		500	
41	EW3652	Wickerson High Level Watermain		2,454	

Environmental and Engineering Services Department
Water
Capital Program
(\$000's)

Program Name:	Water	2011 Proposed Budget -	\$23,350
Committee:	Built and Natural Environment Committee	2012 - 2015 Forecast -	\$119,658
Page Number	Project Number	Project	Life Cycle Renewal Growth System Improvement
42	EW3653	Wickerson Pumping Station	747
36	EW3710	Downtown Watermain Replacement	1,500
44	EW3712	White Oak Road Watermain Upsizing	450
36	EW3717-11	Inspect Trunk Concrete Pressure	1,000
47	EW3754-11	Abandoned Wells Decommissioning	31
37	EW3765-11	Main Replacement - Engineering	5,699
44	EW3772-11	Water Efficiency Program	200
37	EW3787-11	Main Replacements with Major Road Works	2,755
47	EW3805	Local Improvement - White Oak Road Industrial Subdivision Water Cost Sharing	1,050
47	EW3817-11	Watermain Oversizing Costs	50
37	EW3833-11	Main Replacement Maintenance	840
38	EW3842-11	Replace Lead Water Services	450
Total by Classification		\$16,229	\$4,411
Total 2011 Water Capital		\$23,350	

Environmental and Engineering Services Department
Water
Capital Expenditure Summary by Classification
(\$000's)

Water	Prior Years	2016 to								Total
		2010	2011	2012	2013	2014	2015	2020		
Life Cycle Renewal	4,695	20,826	16,229	16,981	16,407	18,188	19,774	123,729	236,829	
Growth	8,622	3,258	4,411	2,690	7,125	14,062	8,395	11,051	59,614	
Service Improvement	0	2,617	2,710	3,772	4,906	3,687	3,671	12,832	34,195	
Total Water	13,317	26,701	23,350	23,443	28,438	35,937	31,840	147,612	330,638	

Council approved the Capital Budget for 2010 on November 23, 2009 at \$26.6 million. Subsequently additional funds were approved.

**Environmental and Engineering Services Department
Water
Capital Source of Financing Summary
(\$000's)**

Water	Prior Years							2016 to 2020		Totals
		2010	2011	2012	2013	2014	2015	2020	2020	
RATE SUPPORTED										
Capital Water Rates	1,900	10,075	11,400	12,575	13,715	14,900	15,534	95,582	175,681	
Capital Water Reserve Fund	3,246	11,280	7,100	8,600	9,148	8,370	7,175	42,745	97,664	
Industrial Oversizing Water Reserve Fund	5,300	133	220	281	431	3,491	2,361	2,077	14,294	
Debenture		3,749							3,749	
Total Rate Supported	10,446	25,237	18,720	21,456	23,294	26,761	25,070	140,404	291,388	
NON-RATE SUPPORTED										
Debenture - Non Rate Supported (City Services - Water Reserve Fund)						5,077	2,289			7,366
City Services Water Reserve Fund (Note 1)	2,692	1,450	3,365	757	3,938	3,656	3,408	3,601	22,867	
City Services Corporate Services Reserve Fund	179	14	59	24	157	24	24	252	733	
Federal Gas Tax Grant			419	419	419	419	419	2,095	4,190	
Other Contributions (Prov Grants, Cash Payments, Stimulus Funding)			787	787	630		630	1,260	4,094	
Total Non-Rate Supported	2,871	1,464	4,630	1,987	5,144	9,176	6,770	7,208	39,250	
Total Sources of Financing	13,317	26,701	23,350	23,443	28,438	35,937	31,840	147,612	330,638	

Growth splits for 2010 and beyond are consistent with the 2009 Development Charge Study.

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Life Cycle						
		2010	2011	2012	2013	2014	2015	2016 to 2020
EW1612-11 Meters & Devices	400	400	400	400	400	400	2,000	4,400
Purchase and installation of new water meters, valves and related equipment. Includes cost of meters for all new development and as required for individual metering of existing condominiums. To ensure fair billings based on actual water consumption.								
2011 Financing: Water Rates								
EW2310 Western Road Watermain Replacement							1,300	1,300
To replace the watermain on Western Road from Platt's Lane to Oxford Street.								
EW3409-11 Pumping Stations Major Repairs	115	150	150	150	150	150	750	1,615
Purchase and installation of major equipment to maintain or optimize the efficiency and effectiveness of the water control system, including bulk water filling stations.								
2011 Financing: Water Rates								
EW3525 Cathodic Protection Program	225	50			50		100	425
To implement, test and monitor Cathodic Protection on steel, concrete and ductile iron watermains to prolong the lifespan of existing watermains.								
EW3526 Arva Pumping Station Upgrades	2,000	988	50	50	50	50	250	3,488
To undertake major valve maintenance. Equipment is 40 years old and requires ongoing repairs.								
2011 Financing: Water Rates								

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Life Cycle									
	Prior Years	2010	2011	2012	2013	2014	2015	2016 to 2020	Total	
EW3528 Quality Management System Audits	75	75	10	10	50	10	10	130	370	
Through the "Safe Drinking Water Act" and the "Drinking Water Quality Management Standard" requires the City, as the operating authority, to be accredited. The requirements are fulfilled by establishing and maintaining a Quality Management System, including internal and external auditing.										
2011 Financing: Water Rates										
EW3540 EMPS - Capital Maintenance	1,300	50	50	50	50	50	50	250	1,850	
Project required for maintenance and upgrades to Elgin-Middlesex (London) Pumping Station at St. Thomas. Replacement of Pumps 4 & 5 and associated mechanical/electrical equipment in 2011, in conjunction with commissioning of the Southeast Reservoir and Pumping Station.										
2011 Financing: Water Rates										
EW3541 EMPS - SCADA Upgrade	300		300				300	900		
To repair and upgrade equipment controllers and computerized SCADA system at Elgin Middlesex Pumping Station.										
EW3550 Royal York Watermain Replacement		80	700					780		
To replace the watermain on Royal York Road from Hyde Park Road to Oxford Street.										

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Life Cycle						2016 to 2020 Total
		2010	2011	2012	2013	2014	2015	
EW3563-11 Main Cleaning & Relining		2,501	3,025	3,425	3,825	4,225	4,625	29,125 50,751
An annual program for the cleaning and relining of existing watermains on streets throughout the City of London in order to maintain flow capacity and provide safe, cost effective water.								
2011 Financing:								
Water Rates		\$2,473						
Water Reserve Fund		133						
Federal Gas Tax Grant		419						
Total Financing		\$3,025						
EW3572 Commissioners Road Watermain Replacement					50	1,000		1,050
To replace the watermain on Commissioners Road from Wharncliffe Road to Wonderland Road - Phase II. New watermain required to replace existing system which has surpassed its useful life.								
EW3580 Huron Street River Crossing Remedial Work	270	300	2,600					3,170
To replace the existing 600mm watermain under Thames River behind Huron Street and Philip Aziz Avenue.								
2011 Financing: Water Reserve Fund								

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Life Cycle						
		2010	2011	2012	2013	2014	2015	2016 to 2020
EW3617 Springbank Reservoir No. 2 Replacement	450							3,635 4,085
Springbank Reservoir Cell No. 2 reconstruction is the second largest project on Water's Long Term Plan. An assessment of storage needs and changes to the operational procedures have increased the anticipated service life. Deferral of the project by 10 years is expected and results in significant debt deferral for the water utility. Interim inspection and repair costs can be accommodated within the current maintenance funding of the reservoir. Further studies will be undertaken to assess the timing and location for additional reservoir capacity following construction of the Southeast Reservoir.								
EW3624 Burbrook Area Watermain Upgrade Phase II						1,000	600	5,050 6,650
Replacement of watermain and water service in the existing Burbrook Trunk Storm Sewer and Burbrook Lateral area. New watermain required to replace undersized existing system which has surpassed its useful life. Coordinated with Sewer Project ES3054 and ES3058.								
EW3627 SCADA Equipment Replacement	75		90			105	120	390
The planned replacement of existing SCADA equipment.								
EW3656 Wellington Road Watermain Replacement	525			882	998		750	3,155
To replace the watermain on Wellington Road from the Thames River to Baseline Road. New watermain required to replace existing system which has surpassed its useful life. Coordinated with Sewer Project ES2464 - Separation and CSO Program.								

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Life Cycle						
		2010	2011	2012	2013	2014	2015	2016 to 2020
EW3702 Fanshawe Park Road Watermain Replacement							184	1,658
To replace the watermain on Fanshawe Park Road from Adelaide Street to Highbury Avenue. Coordinated with Transportation Project TS1475 and Sewer Project ES4424.								1,842
EW3707 Southdale Road Watermain Replacement							1,909	1,909
The replacement and rehabilitation of existing watermains on Southdale Road between Wellington Road and Pond Mills in conjunction with Transportation Road Project TS1487 Road Widening and Sewer Project LI2040.								
EW3710 Downtown Watermain Replacement	105	1,500				105	1,500	1,710
To replace deficient watermains and services. Useful life of watermain and water services surpassed or undersized. Coordinated with Roads Project TS1306 and Sewer Replacement Program.								4,920
2011 Financing: Water Reserve Fund								
EW3717-11 Inspect Trunk Concrete Pressure	845	1,000	446	320	320	320	1,600	4,851
Project required for structural analysis of existing 900mm to 1,350mm concrete watermains.								
2011 Financing:								
Water Rates		\$636						
Water Reserve Fund		364						
Total Financing		\$1,000						

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Life Cycle						
		2010	2011	2012	2013	2014	2015	2016 to 2020
EW3765-11 Main Replacement - Engineering		7,938	5,699	5,535	6,135	6,735	6,835	50,567
An annual program for replacement of watermain and water services as outlined in the Condition Assessment Program Needs Study. New watermain and water services required to replace existing systems which have surpassed useful life. New water supply required to provide fire flows to the community. Coordinated with Sewer Project ES2414 - Sewer Replacement Program.								89,444
2011 Financing:								
Water Rates		\$4,036						
Water Reserve Fund		1,663						
Total Financing		\$5,699						
EW3787-11 Main Replacements with Major Road Works		2,625	2,755	2,255	2,255	2,455	2,355	14,575
Replacement of watermains that have reached their useful lifespan. Coordinated with major road works.								29,275
2011 Financing: Water Rates								
EW3833-11 Main Replacement Maintenance		800	840	840	840	840	840	4,200
Maintenance of existing watermain and service replacements as identified by the Needs Study. Useful life of watermain may have expired, be undersized and/or inadequate to supply fire flow to present standards.								9,200
2011 Financing: Water Rates								

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Life Cycle						
		2010	2011	2012	2013	2014	2015	2016 to 2020
EW3842-11 Replace Lead Water Services		750	450	750	750	750	750	3,750 7,950
Fifteen year program to replace lead water services. Recommendation from the Walkerton Inquiry Report states "lead service lines should be located and replaced over time with safer materials". This work has been incorporated into our Lead Service Replacement Program.								
2011 Financing: Water Reserve Fund								
Balance of approved projects for prior years comparison								
Total Life Cycle Renewal		4,695	20,826	16,229	16,981	16,407	18,188	19,774 123,729 236,829

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Growth	2016 to								
		Prior Years	2010	2011	2012	2013	2014	2015	2020	Total
EW1503 Development Charges Background Study		84		60						144
Background study to determine future watermain needs to service growth, time and growth splits. 75% Growth Related.										
2011 Financing:										
Water Reserve Fund			\$15							
Development Charges			45							
Total Financing			\$60							
EW3312 Water Distribution System Master Plan		155			155		155		465	
To update the City's Water Distribution System Master Plan to support the calculation of Development Charges. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (83.5% DC Rate Supported).										
EW3551 Hyde Park - Samia Road High Level Watermain - Phase II					218	1,959			2,177	
Construction of 400mm, 450mm and 600mm watermains in the high level area of Northwest London. Watermain installation required to service customers in the Hyde Park High Level area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).										
EW3590 Uplands Pumping Station Upgrade					28	252			280	
To upgrade the Uplands Pumping Station to serve future growth in North London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).										

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Growth	2016 to 2020										Total
		Prior Years	2010	2011	2012	2013	2014	2015	2020	2016 to 2020		
EW3591 Hyde Park Pumping Station Upgrade							55	495		550		
To upgrade the Hyde Park Pumping Station to serve future growth in North West London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).												
EW3595 Hyde Park Road Feeder Watermain						227	2,045			2,272		
To construct a 750mm watermain on Hyde Park Road from Sarnia Road to Oxford Street. Watermain installation required for water supply to West London. Coordinated with Sewer Project ES2493 and Transportation Project TS1477. Pumping Station to serve future growth in North London. Growth splits are consistent with the 2009 Development Charge Study. 35% Growth Related (33.8% DC Rate Supported).												
EW3606 Southeast Pressure Zone Feeder Watermain	6,366						325	2,622		9,313		
To construct feeder watermains on Bradley Avenue from Jackson Road to Airport Road to service Airport Road Industrial Subdivision Development Phase II in 2009 and Southeast London from the Southeast Pumping Station and Reservoir. Coordinated with Industrial Land Project ID1168 and Sewer Oversizing Project ID2058. Incremental growth in the water distribution system will ultimately lead to increased operating costs. Growth splits are consistent with the 2009 Development Charge Study. 99.2% Growth Related (15.3% DC Rate Supported).												

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years						Category: Growth		
		2010	2011	2012	2013	2014	2015	2016 to 2020	Total
EW3611 Highbury Avenue South Trunk Watermain					531	4,783			5,314
Construction of a 900mm diameter trunk watermain on Highbury Avenue from the Southeast Pumping Station to Dingman Drive to facilitate industrial growth in Southeast London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (36.9% DC Rate Supported).									
EW3628 Expansion of Southeast Pressure Zone	100	300	500	1,800					2,700
To install pressure regulating valves and associated piping to service portions of Southeast London with the Southeast Pumping Station. Growth splits are consistent with the 2009 Development Charge Study. 40% Growth Related (25.2% DC Rate Supported).									
<u>2011 Financing:</u>									
Water Reserve Fund	\$310								
Industrial Oversizing	64								
Development Charges	126								
Total Financing	\$500								
EW3652 Wickerson High Level Watermain	1,477	307	2,454				1,172	5,410	
Construction of 400mm and 450mm watermains in the high level area of Southwest London. Watermain installation required to service future customers in the River Bend and Wickerson area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (99.2% DC Rate Supported).									
<u>2011 Financing: Development Charges</u>									

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Growth						2016 to 2020 Total
		2010	2011	2012	2013	2014	2015	
EW3653 Wickerson Pumping Station	440		747					1,187
Upgrade pumping station to serve future growth in Southwest London. Pumping station required for the high level River Bend and Wickerson area. Growth splits are consistent with the 2004 and 2009 Development Charge Study. 100% Growth Related (86% DC Rate Supported).								
2011 Financing: Development Charges								
EW3654 Arva Pumping Station Upgrade								2,600 2,600
Upgrade the Arva Pumping Station including pump replacements that are required as water demand increases. Growth splits are consistent with the 2009 Development Charge Study. 50% Growth Related (47.2% DC Rate Supported).								
EW3666 Wonderland Road North Feeder Watermain	2,259		304	2,739				261 5,563
To construct a 450mm watermain on Wonderland Road North from Gainsborough Road to Sunningdale Road. Project required to upgrade north London area water supply. Coordinated with Transportation Project TS1156 and TS1354 - Road Widening and Sewer Project ES4423. Growth splits are consistent with the 2009 Development Charge Study. 46% Growth Related (44.1% DC Rate Supported).								

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Growth	2016 to 2020									
		Prior Years	2010	2011	2012	2013	2014	2015	2020	Total	
EW3685 Oxford Street West Feeder Watermain						236	2,126			2,362	
To construct a 600mm watermain on Oxford Street West from Hyde Park Road to Sanatorium Road. Watermain installation required to supply water to new developments in west London in conjunction with Transportation Project TS1493 and Sanitary Sewer Project ES2493. Growth splits are consistent with the 2009 Development Charge Study. 75% Growth Related (72.4% DC Rate Supported).											
EW3692 Medway - Wonderland Road Trunk Watermains						997	6,258	2,717		9,972	
To construct a 1,500mm watermain from the Arva Pumping Station to the North London area. Trunk watermain required to supply future customers in North and West London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (94.6% DC Rate Supported).											
EW3709 Crumlin & River Feeder Watermain Phase III						2,670	2,670				
To construct 450mm and 600mm watermains in South East London to service industrial land in the River Road Industrial area. Growth splits are consistent with the 2009 Development Charge Study. 77% Growth Related (33.1% DC Rate Supported).											

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Prior Years	Category: Growth								
		2010	2011	2012	2013	2014	2015	2016 to 2020	Total	
EW3712 White Oak Road Watermain Upsizing	192	450						2,443	3,085	
To construct a new 450mm watermain on White Oak Road between Dingman Drive and Exeter Road to service new development within the 20 year Urban Growth Area. Growth splits are consistent with the 2009 Development Charge Study. 35% Growth Related (8.4% DC Rate Supported).										
2011 Financing:										
Water Reserve Fund	\$307									
Industrial Oversizing Reserve Fund	105									
Development Charges	38									
Total Financing	\$450									
EW3772-11 Water Efficiency Program	200	200	350	350	350	350	350	1,750	3,550	
To undertake a water efficiency strategy to promote awareness of water issues. Water efficiency/conservation program will be a requirement of the new Municipal Water Licensing Plan. 8% Growth Related (6.8% DC Rate Supported).										
2011 Financing:										
Water Reserve Fund	\$186									
Development Charges	14									
Total Financing	\$200									
Balance of approved projects for prior years comparison										
Total Growth	8,622	3,258	4,411	2,690	7,125	14,062	8,395	11,051	59,614	0

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Service Improvement							
	Prior Years	2010	2011	2012	2013	2014	2015	2016 to 2020
EW1627-11 Meter Replacement Program		1,800	1,300	1,800	1,800	1,800	1,800	5,900 16,200
Ten year program (estimated) to upgrade water meter and meter reading technology in light of changes being made by current meter reading/billing partner (London Hydro). Work continuing on a business case review of options and technology pilots. Funding program identified in this budget is based on transition to Automated Meter Reading system (AMR) for over 100,000 meters. Program will also address backlog of out of date meters previously budgeted in EW1622 Meter Replacement Program. If business case supports Automated Meter Reading System, current meter reading costs could be reduced over time.								
<u>2011 Financing:</u> Water Reserve Fund								
EW2403 New Vehicles & Equipment		173		130			260	563
To purchase new vehicles to provide for planned growth of the water distribution system. Includes purchase of portable asphalt recycling equipment to facilitate better repairs to asphalt surfaces by watermain failures.								
<u>2011 Financing:</u> Water Reserve Fund								
EW3533-11 Lead Mitigation Strategy	106	106	106	106	106	106	530	1,166
An annual program to support the replacement of lead water services through increased public awareness of the Water By-law W-3. Recommendations from the Walkerton Inquiry states "lead service lines should be located and replaced over time with safer materials".								
<u>2011 Financing:</u> Water Reserve Fund								

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Service Improvement	2016 to 2020							Total
		Prior Years	2010	2011	2012	2013	2014	2015	
EW3543 Southdale West Main Replacement			105	1,200					1,305
New project to replace/upsize the distribution watermain on Southdale Road between Wonderland Road and Wharncliffe Road. New watermain required to replace existing system which has surpassed its useful life and is undersized for the projected flow requirement.									
EW3657 Westmount Area High Level System Distribution Improvements							214	1,931	2,145
To replace and upsize the existing 300mm and 200mm watermains on Viscount Road (Wonderland Road to Belmont Drive) with 600mm and 450mm watermains. Watermains undersized for peak distribution needs. Identified in the High Level Water Distribution System Master Plan.									
EW3658 Westmount Pumping Station to Viscount Road High Level Water Reinforcement		119	1,070						1,189
To replace and upsize the existing 300mm and 400mm watermains on Wonderland Road (Westmount Pumping Station to Viscount Road) with 600mm watermain as identified in the High Level Water Distribution System Master Plan. Watermains undersized for peak distribution.									
EW3743 Watermain Extensions		840	840	1,680					3,360
Cost sharing project for the watermain extensions to unserviced parts of the Urban Growth Area and beyond. City's share is approximately 25% of the total cost.									

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

Program Name: Water	Category: Service Improvement	Prior Years						2016 to 2020		Total
			2010	2011	2012	2013	2014	2015	2020	
EW3754-11 Abandoned Wells Decommissioning			331	31	331	331	331	331	631	2,317
To decommission former London Public Utilities Commission abandoned wells. Ontario Regulation 903. Section 21 (3) requires that the wells be properly decommissioned.										
2011 Financing: Water Reserve Fund										
EW3805 Local Improvement - White Oak Road Industrial Subdivision Water Cost Sharing				1,050		1,050				2,100
Cost sharing project for the installation of watermains in this existing industrial area. Coordinated with Sewer Project ES3111. City's share is approximately 25% of the total cost.										
2011 Financing:										
Water Reserve Fund			\$263							
Other Contribution			787							
Total Financing			\$1,050							
EW3817-11 Watermain Oversizing Costs			50	50	50	50	50	50	250	550
To accommodate oversizing costs to upsize feeder and distribution watermains.										
2011 Financing: Industrial Oversizing Reserve Fund										

Environmental and Engineering Services Department
Water
Capital Expenditure Detail
(\$000's)

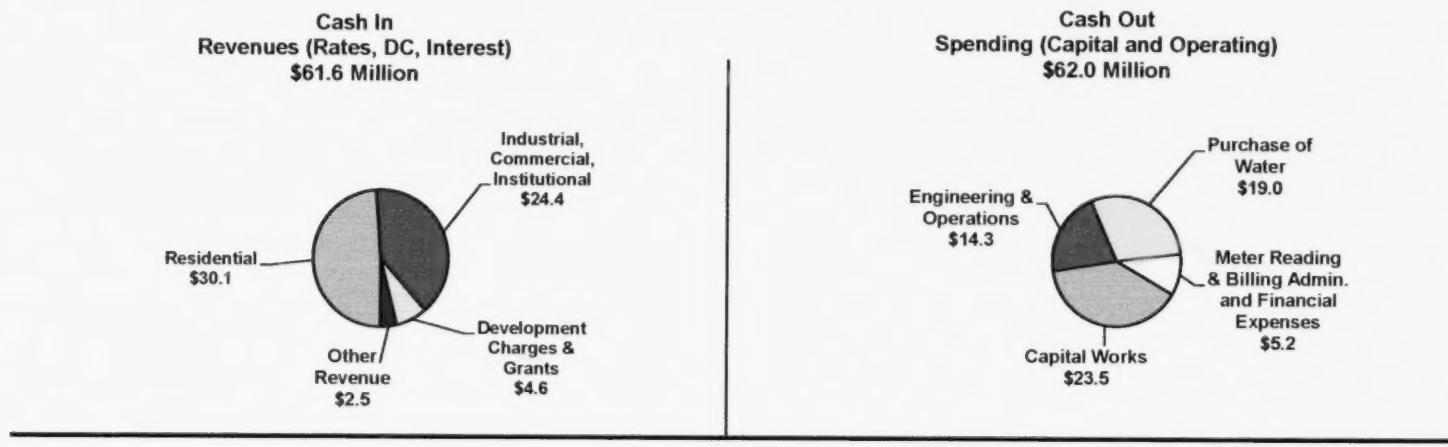
Program Name: Water	Category: Service Improvement	Prior Years	2016 to						Total
			2010	2011	2012	2013	2014	2015	
EW3851-11 New Meters for Development		330		330	330	330	330	330	1,650 3,300
An annual program to purchase and install new water meters, valves and related equipment for new development. To ensure fair billings on actual water consumption for all new development connecting to the water distribution system.									
Total System Improvement		0	2,617	2,710	3,772	4,906	3,687	3,671	12,832 34,195
Total Capital Plan		13,317	26,701	23,350	23,443	28,438	35,937	31,840	147,612 330,638

Environmental and Engineering Services Department

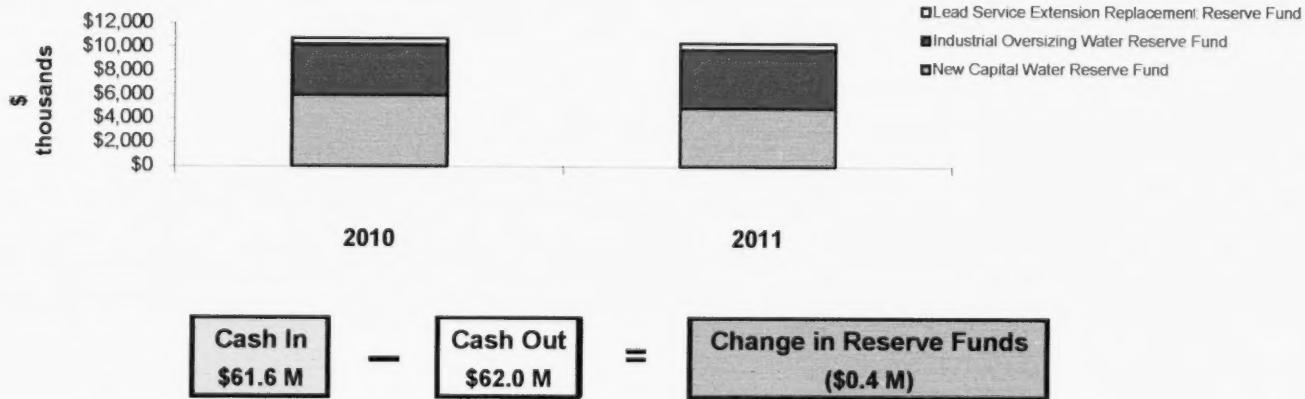
Water

2011 Reserve Funds and Reserves

Environmental and Engineering Services Department
Water
Simplified Water Funding Overview
(\$millions)



Reserves /Reserve Funds Balances



Environmental and Engineering Services Department
Water
Reserve Funds and Reserves
(\$000's)

New Capital Water Reserve Fund	Actual 2009	Projected 2010	Proposed 2011	Forecast				
				2012	2013	2014	2015	2016-2020
Opening Balance	\$28,286	\$23,709	\$5,982	\$4,891	\$4,084	\$4,434	\$7,755	\$15,417
Contributions from Operating Water Rates	6,797	9,079	5,901	7,704	9,414	11,570	14,608	51,194
Additional Contribution (surplus and account closing)	0	729						
Interest	499	294	108	89	84	121	229	1,784
	\$35,582	\$33,811	\$11,991	\$12,684	\$13,582	\$16,125	\$22,592	\$68,395
Operating Deficit	856							
Drawdowns - Current Year	4,590	11,280	7,100	8,600	9,148	8,370	7,175	42,745
Drawdowns - Prior Year	6,427	16,549						
Total Drawdowns (1)	\$11,873	\$27,829	\$7,100	\$8,600	\$9,148	\$8,370	\$7,175	\$42,745
Ending Balance (2)	\$23,709	\$5,982	\$4,891	\$4,084	\$4,434	\$7,755	\$15,417	\$25,650

Notes:

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

(2) The reserve fund balance may increase/decrease subject to the 2010 year end operating position of the water operating budget.

Industrial Oversizing Water Reserve Fund	Actual 2009	Projected 2010	Proposed 2011	Forecast				
				2012	2013	2014	2015	2016-2020
Opening Balance	\$12,218	\$6,149	\$4,252	\$4,923	\$5,546	\$6,030	\$3,433	\$1,925
Contributions from Operating Water Rates	1,300	800	800	800	800	800	800	2,500
Interest	218	103	91	104	115	94	53	243
	\$13,736	\$7,052	\$5,143	\$5,827	\$6,461	\$6,924	\$4,286	\$4,668
Drawdowns - Current Year	958	133	220	281	431	3,491	2,361	2,077
Drawdowns - Prior Year	6,629	2,667						
Total Drawdowns (1)	\$7,587	\$2,800	\$220	\$281	\$431	\$3,491	\$2,361	\$2,077
Ending Balance	\$6,149	\$4,252	\$4,923	\$5,546	\$6,030	\$3,433	\$1,925	\$2,591

Notes:

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

(2) This reserve fund was established to provide funding for the servicing costs in Industrial Developments and oversizing in growth projects.

Environmental and Engineering Services Department
Water
Reserve Funds and Reserves
(\$000's)

City Services - Water Levies Reserve Fund	Actual	Projected	Proposed	Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016-2020
Opening Balance	\$13,921	\$14,657	\$7,864	\$6,143	\$6,932	\$4,573	\$2,499	\$634
Levies	1,592	1,619	1,505	1,417	1,465	1,512	1,512	7,560
Interest	173	223	139	129	114	70	31	226
	\$15,686	\$16,499	\$9,508	\$7,689	\$8,511	\$6,155	\$4,042	\$8,420
Refunds	11	3	0	0	0	0	0	0
Forecasted Future Debt	0	0	0	0	0	0	0	2,793
Drawdowns - Current Year	451	1,450	3,365	757	3,938	3,656	3,408	3,601
Drawdowns - Prior Year	567	7,182	0	0	0	0	0	0
Total Drawdowns (1)	\$1,029	\$8,635	\$3,365	\$757	\$3,938	\$3,656	\$3,408	\$6,394
Ending Balance	\$14,657	\$7,864	\$6,143	\$6,932	\$4,573	\$2,499	\$634	\$2,026

Notes:

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

Lead Service Replacement Program Reserve Fund	Actual	Projected	Proposed	Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016-2020
Opening Balance	490	\$492	\$483	\$502	\$521	\$541	\$561	\$581
Contributions from Operating Water Rates	0	0	0	0	0	0	0	0
Repayment of Lead Repl. Program	3	6	9	9	9	9	9	36
Interest	6	10	10	10	11	11	11	63
	\$499	\$508	\$502	\$521	\$541	\$561	\$581	\$680
Loans - Lead Replacement Program	7	25	0	0	0	0	0	0
Total Loans	\$7	\$25	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$492	\$483	\$502	\$521	\$541	\$561	\$581	\$680

Notes:

(1) The purpose of this reserve is to provide the funding mechanism for the Lead Service Extension Replacement Loan Program. Program is designed to assist with the private portion of lead service replacement. Repayment will be made over 10 years. The funding requirement is dependant on the number of households who take advantage of this pilot program. Any balance remaining in this reserve fund at the end of the Lead Service Replacement Loan Program will be returned to the New Capital Water Reserve Fund.

Environmental and Engineering Services Department
Water
Reserve Funds and Reserves
(\$000's)

Water Vacancy Management Reserve	Actual 2009	Projected 2010	Proposed 2011	Forecast				
				2012	2013	2014	2015	2016-2020
Opening Balance Contributions	\$121	\$176	\$194	\$194	\$194	\$194	\$194	\$194
	55	18						
Drawdowns	\$176	\$194	\$194	\$194	\$194	\$194	\$194	\$194
Ending Balance	0	0	0	0	0	0	0	0
Ending Balance	\$176	\$194	\$194	\$194	\$194	\$194	\$194	\$194

Environmental and Engineering Services Department

Water

2011 Debt Summary - Rate Supported

Environmental and Engineering Services Department
Water
Debt Summary - Rate Supported
(\$ millions)

The Water capital budget forecast for the 2011 - 2020 capital plan contains zero debt financing as outlined in the table below.

Rate Supported - Projected Debt Financing	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Capital Projects Funded by Rate - Supported Debentures ⁽¹⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(1) Debt servicing cost will be covered by operating revenue generated by Water rates.

The Water system has been maintained using pay-as-you-go capital financing. At September 30, 2010, the total net Water debt outstanding was approximately \$0.1 million and a total of \$4.2 million of authorized but not issued debt. The long term financial goal is to continue to fund water system capital works using pay-as-you-go sources as the primary source of funding.

By 2013 the annual debt servicing costs will be approximately \$0.5 million as outlined in the table below.

Annual Debt Servicing Costs (excluding Joint Boards)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Water Budget - Rate Supported	0.0	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

The Water budget carries debt associated with the City's share of debt issued by the Joint Boards (debt issued for capital works necessary to bring potable water from Lake Huron and Lake Erie to the City system). This will be approximately \$2.8 million at the end of 2010. Debt payments tied to the City's share of the Joint Board debt are made indirectly as the part of the purchase of water rate charged to the City by the Joint Boards and is estimated to be approximately \$0.5 million in 2011.

Environmental and Engineering Services Department

Water

2011 Schedule of Rates and Charges

**Environmental and Engineering Services Department
Water
2011 Schedule of Rates and Charges**

Effective Dates

Monthly Rates and Charges

Came into effect on January 1, 2010 and remains the same for 2011.

Equipment Rentals

Came into effect on January 1, 2010 and remains the same for 2011.

Miscellaneous Charges

Came into effect on January 1, 2010 and remains the same for 2011.

Monthly Rates and Charges

2010 Approved Rates

2011 Approved Rates

Residential

First	16.990 m ³	\$1.49531/m ³	\$1.49531/m ³
Next	39.644 m ³	\$1.57181/m ³	\$1.57181/m ³
All additional m ³		\$1.64714/m ³	\$1.64714/m ³
Minimum monthly bill		\$5.00	\$5.00

Commercial, Institutional, Industrial &

Multi Family Residential

First	2.832 m ³	\$5.72569/m ³	\$5.72569/m ³
Next	707.925 m ³	\$0.98037/m ³	\$0.98037/m ³
All additional m ³		\$0.80967/m ³	\$0.80967/m ³
Minimum monthly bill		\$5.00	\$5.00

Environmental and Engineering Services Department
Water
2011 Schedule of Rates and Charges (cont'd)

	<u>2010 Approved Rates</u>	<u>2011 Approved Rates</u>
<u>Water Meters</u>		
Meter Size	Monthly Charge	Monthly Charge
16 mm	\$0.59	\$0.59
19 mm	\$0.65	\$0.65
25 mm	\$5.16	\$5.16
40 mm	\$10.07	\$10.07
50 mm	\$13.50	\$13.50
76 mm	\$33.67	\$33.67
100 mm	\$49.58	\$49.58
150 mm	\$83.71	\$83.71
200 mm	\$129.19	\$129.19
<u>Miscellaneous Charges</u>		
Non-payment of account		
Late payment charge	Monthly Interest Compounded	Monthly Interest Compounded
NSF cheques	\$12.77 + bank charges	\$12.77 + bank charges
Collection charge	\$13.26 per trip	\$13.26 per trip
Reconnection		
During regular hours	\$27.27	\$27.27
After regular hours	\$43.01	\$43.01

Environmental and Engineering Services Department
Water
2011 Schedule of Rates and Charges (cont'd)

	<u>2010 Approved Rates</u>	<u>2011 Approved Rates</u>
Arrears certificate charges (non-payment/arrears)	\$50.00 per property	\$50.00 per property
Disconnect and Reconnect meter at customer request		
Up to 25mm	\$54.82	\$54.82
Over 25mm	\$93.32	\$93.32
Install water meter and remote read-out unit -		
Customer Request		\$210.00
Repair damaged meter		
16 and 19 mm	\$144.36	\$144.36
25 mm and larger	Time and material	Time and material
Meter checked for accuracy at customer's request and		
found to be accurate		
Up to 25mm	\$107.90	\$107.90
Over 25mm	\$145.81	\$145.81

Environmental and Engineering Services Department
Water
2011 Schedule of Rates and Charges (cont'd)

	<u>2010 Approved Rates</u>	<u>2011 Approved Rates</u>
Water Rate for Temporary Connection for Construction		
Single family structure	\$12.02	\$12.02
Duplex structure one service line	\$12.02	\$12.02
Up to 4 units	\$15.02	\$15.02
5 to 10 units	\$22.52	\$22.52
11 to 15 units	\$30.03	\$30.03
16 to 20 units	\$37.55	\$37.55
21 to 25 units	\$45.20	\$45.20
26 to 30 units	\$52.55	\$52.55
31 to 35 units	\$60.08	\$60.08
36 to 40 units	\$67.59	\$67.59
41 to 50 units	\$75.09	\$75.09
Over 50 units	\$1.52 per unit	\$1.52 per unit
Other structures per 93 m ² of floor space	\$3.06 (minimum charge \$8.25)	\$3.06 (minimum charge \$8.25)
Bulk water users		
Smart Card (per card purchase cost)	\$30.00	\$30.00
Cost of Water per 1,000 L	\$2.48	\$2.48
Inspecting waterworks Installations	\$83.11 per hour	\$83.11 per hour
Builder and Developer Charges		
Frontage charge per metre for existing mains		
Residential	\$150.69 per metre	\$150.69 per metre
Commercial, Industrial and Institutional	\$160.27 per metre	\$160.27 per metre